

REMARKS/ARGUMENTS

The present Amendment is in response to the Final Office Action having a mailing date of September 11, 2006. Claims 1-16 are pending in the present Application. Claims 1-10 have been withdrawn from consideration. Applicant has amended claim 11 and canceled claim 12. Consequently, claims 1-11 and 13-16 remain pending in the present Application.

Claim 11 has been amended to recite that the CoNiFe a high saturation magnetic flux density of greater than 2.2 Tesla and a composition of 58-62 weight percent of Fe and 3.5-4 weight percent of Ni. Thus, claim 11 has been amended to incorporated claim 12. Accordingly, Applicant respectfully submits that no new matter is added and no new search is required. Should the claims not be allowed, Applicants respectfully request entry of the amendment to place the application in better condition for appeal.

In the above-identified Office Action, the Examiner rejected claims 11-13 under 35 U.S.C. § 102 as being anticipated by U.S. Patent Publication No. 2003/0095357 (Kudo).

Applicant respectfully traverses the Examiner's rejection. Claim 11 recites a magnetic recording head that includes first and second poles, a write coil at least a portion of which resides between the first and second poles, and a write gap residing between a part of the first pole and a part of the second pole. Claim 11 further recites that at least a portion of at least one of the first and second pole is plated using a plating solution including hydroxymethyl-p-tolylsulfone (HPT). Claim 11 further specifies that the plating solution is configured to such that the at least the portion includes a CoNiFe film having a high saturation magnetic flux density and having a composition of 50-70 weight percent of Fe and 3-8 weight percent of Ni and which is less than one micron. Claim 11 further specifies that the CoNiFe film has the high saturation magnetic flux

density of greater than 2.2 Tesla and a composition of 58-62 weight percent of Fe and 3.5-4 weight percent of Ni. Consequently, the magnetic head recited in claim 11 may make use of CoNiFe films having a high B_{sat} , low coercivity, low anisotropy field and a substantially unaffected resistivity. Specification, paragraph 30. As a result, performance of the head may be improved.

Kudo fails to teach or suggest the use of the recited CoNiFe film formed using the plating solution and having the recited composition and the recited high saturation magnetization. Kawasaki does describe the use of magnetic heads having multiple CoNiFe films. In particular, Kudo states that there are two CoNiFe films. A first, which is sputtered, is an “underlayer” for the thicker magnetic layer. Kudo expressly states that in order to plate the magnetic layer, an underlayer—a “thin electrical conducting layer which is formed by sputtering . . . becomes necessary.” Kudo, paragraph 9. The underlayer is the CoNiFe and is thin—not more than two hundred nanometers. Kudo, paragraph 32. Once the underlayer has been provided, the thicker layer used for the core can be plated. Kudo, paragraph 26. Kudo further states that the saturation magnetization of the first CoNiFe layer—the underlayer—is higher than that of a second CoNiFe layer. Kudo, paragraphs 11 and 20. Kudo also states that for the first (higher saturation magnetization) film, the ranges of concentration are 10-80 weight percent Co, 15-90 weight percent of Fe and 0-25 weight percent of Ni and that the magnetic flux density is 2.0 Tesla or greater. As a result, the second, lower saturation magnetization, CoNiFe film has a saturation magnetization of less than 2.0 Tesla.

The sputtered film of Kudo has a higher saturation magnetization of at least 2.0 Tesla. However, Applicant has found no specific indication in Kudo that at least a saturation magnetization of 2.2 Tesla may be achieved even for the sputtered film.

Thus, Kudo does not teach the recited film with a magnetic saturation greater than 2.2 T. Moreover, Applicant has found no indication in Kudo that the saturation magnetization of the film can be or should be greater than 2.2 T.. Consequently, even the use of a sputtered CoNiFe in Kudo fails to teach or suggest the recited head of claim 11. Claim 11 is, therefore, allowable over the cited references.

Claim 13 depends upon independent claim 11. Consequently, the arguments herein apply with full force to claims 13. Accordingly, Applicant respectfully submits that claim 13 is allowable over the cited references.

The Examiner also rejected claims 14-16 under 35 U.S.C. § 103 as being unpatentable over Kudo. In particular, the Examiner indicated that such modifications would occur during the course of routine optimization. But such optimization of the magnetic properties of the film would require having a film with the recited magnetic saturation of greater than 2.2 T, and since such films are not taught in the prior art, further experimentation to optimize the magnetic performance of such films would not be obvious.

Claims 14-16 depend upon independent claim 11. Consequently, the arguments herein apply with full force to claims 14-16. Accordingly, Applicant respectfully submits that claims 14- are allowable over Kudo.

Applicant's attorney believes that this application is in condition for allowance. Should any unresolved issues remain, Examiner is invited to call Applicant's attorney at the telephone number indicated below.

Respectfully submitted,

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Date

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